IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the application of:

SAKASHITA et al

Group Art Unit: 1713

Serial Number: 09/530,202

Examiner: Dr. Kelechi C. Egwim

Filed: April 26, 2000

For: PROCESSING AID FOR VINYL CHLORIDE RESIN AND VINYL CHLORIDE RESIN COMPOSITION

DECLARATION UNDER 37 CFR 1.132

Honorable Commissioner

Washington, D.C. 20231

Sir,

Noriko Sakashita residing at 31-17, Shioya-cho 6-chome, Tarumi-ku, Kobe-shi, Hyogo, JAPAN duly deposes and says:

1. That she graduated from Department of Chemistry, Faculty of Science, Shinshu University, Nagano, Japan, in the year 1996.

2. That since 1996, she has been employed in the capacity of KANEKA CORPORATION;

3. That from 1996, she has been engaged in the works of research and development for processing aids;

4. That she has read and is familiar with the instant application for United States Letters Patent and Office Action thereto mailed November 29, 2001; and

5. That she has made experiments in order to prove that the polymers in the first or second stage of the polymerization process disclosed in the cited references have lower specific viscosities than 0.7 or 0.5 in chloroform.

EXPERIMENT:

EXPERIMENT 1 (Conversion equation)

To an 8 litter reactor equipped with a stirrer was added 0.7 to 1.2 parts of sodium dioctylsulfosuccinate previously dissolved in water. And additional water was added in a total amount of 200 parts, wherein the amount includes an amount of water contained in an additional material added afterward. After the air was replaced by nitrogen gas in the reactor, the content was heated to 70℃ with stirring.

Next, to the reactor was added simultaneously a monomer mixture (A) comprising 60 parts of methyl methacrylate (MMA) and 20 parts of butyl acrylate (BA). After 0.005 to 0.3 part of potassium persulfate was added, stirring was continued for one hour to complete the polymerization substantially. There were obtained 9 polymers having different viscosity.

This procedure is the same as that in Example 1 of the present specification (lines 16 to 27, page 17).

[Measurement of specific viscosity (η_{sp})]

Into 100ml of chloroform, 0.1g of a sample was dissolved and viscosity was measured by employing Ubbelohde's

viscometer maintained at a constant temperature in 30°C water bath. And into 100ml of benzene, 0.4g of a sample was dissolved and viscosity was measured by employing Ubbelohde's viscometer maintained at a constant temperature in 30°C water bath.

Results of η_{sp} measurement are shown in Table 1. From these results, the following equation is derived.

η_{sp}(chloroform) = 0.116 × η_{sp}(benzene) + 0.18

Table 1

Benzene	Chloroform
0.51	0.24
1.02	0.30
1.57	0.37
2.75	0.49
2.97	0.52
3.59	0.59
4.43	0.68
5.44	0.82
6.57	0.95

EXPERIMENT 2 (USP 5,093,420 Comparative Example 5)
(EP392465 page 5 line 52 to page 6 line 4)

This procedure is the same as that in Comparative Example 5 of USP 5,093,420.

"A reactor equipped with a stirrer was charged with 200 parts of water, 1 part of dioctyl sodium sulfosuccinate and 0.01 part of potassium persulfate, and oxygen is removed from the space of the reactor and water by introducing nitrogen into

the reactor. The mixture was raised to a temperature of 65°C with stirring, to which a monomer mixture (A) of 80 parts of methyl methacrylate was added over 4 hours, and the polymerization reaction was continued for 1 hour with stirring while heating to substantially complete the polymerization reaction. Then, to the reaction mixture was added a monomer mixture (B) of 11 parts of butyl acrylate and 9 parts of methyl methacrylate over 1 hour, and the temperature of the mixture was kept at 65°C for 1.5 hours, then the temperature was cooled down to 40°C".

Viscosity of the obtained polymer was measured by using chloroform in the same manner as mentioned above to find out that η_{sp} of the first step and the second step polymer were 0.64 and 0.58, respectively.

The undersigned declares further that all statements made herein of her own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

This 19th day of March, 2002

by Noriko Sakashita

Noriko Sakashita

We, the undersigned witnesses, hereby acknowledge that Noriko Sakashita is personally known to us and did execute the foregoing Declaration in our presence on:

Date: March 19, 2002 Witness Yutaka Tanaka

Date: March 19, 2002 Witness Kazumasa Hashimoto